PATENT SPECIFICATION

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(54) IMPROVEMENTS IN PAINT APPLYING ROLLERS

We, ADLOCK Engineering COMPANY LIMITED, a British Company of Groveley Lane, Northfield, Birmingham, 31, do hereby declare the invention for 5 which we pray that a patent may be granted to us and the method by which it is to be performed to be particularly described in and by the following bу scribed in and statement: --

This invention relates to improvements in applying paint to surfaces by the use of paint applying rollers of the kind in which a roller having at least one outer surface of paint absorbent material is rotatably 15 mounted on a shaft forming a part of a handle assembly by which the roller is carried and, by manipulating the handle assembly the roller, in use, is adapted to travel rotatably over a surface to deposit a 20 coat of paint thereon.

When a coat of paint is applied to a surface by the use of a paint applying roller of the kind set forth, depending upon the type of paint used and the texture of the type of paint used and the texture of the surface to which it is applied, the coat is sometimes of irregular appearance, similar to the peel of an orange, hereinafter called the "orange peel effect". The orange peel effect is caused by irregularities in the 30 outer surface of the roller and a tendency for the point to adhere to the roller at disfor the paint to adhere to the roller at discrete points after it has been deposited on the surface. Such orange peel effect is particularly prevalent when an oil paint is applied to wood or hardboard by the use of a roller of the kind set forth.

According to our invention paint is applied to a surface by manipulating the handle of a roller of the kind set forth to 40 cause the roller to travel rotatably over the surface and deposit a coat of paint thereon, operating manually operable means to lock the roller against rotation relative to the shaft of the handle as-45 sembly, and manipulating the handle to [Price 25p]

cause the locked roller to move over the surface in the manner of a brush or pad and remove any irregularities from a coat of paint previously deposited on the sur-

By this method the orange peel effect is removed and the coat is smoothed to an even appearance.

The locking of the roller relative to the shaft can be achieved by manual operation 55 of any convenient locking means. For example, an arm or other strip detachably or pivotally connected to the handle assembly may be clamped onto the outer surface or other part of the roller. In another con- 60 struction a spring loaded collar slidably keyed to the shaft at a position spaced from one end of the roller is engageable with that end of the roller.

One embodiment of our invention is il- 65 lustrated in the accompanying drawings in which:-

Figure 1 is a longitudinal section through a paint applying roller; and

Figure 2 is a section on the line 2-2 of 70 Figure 1.

The roller may comprise a sleeve of paint absorbent sponge-like synthetic plastics material mounted on and sur-rounding a rigid tube. Alternatively, as il- 75 lustrated, the roller comprises a sleeve 1 of mohair or other fibrous tufts which extend radially outwards from a backing 2 of resilient sponge like material mounted on and surrounding the rigid tube 3.

A handle 4 is generally of the outline of a "Figure 7" and comprises a hand grip 5 from one end of which extends a metal rod 6. The rod 6 is deformed in a direction inclined at less than 90° to the axis of the 85 hand grip and is then deformed back on itself in a reverse direction to define a straight shaft portion 7 located sub-stantially at right angles to the hand grip 5 with the hand grip located at substantially 90

the mid-point in the length of the shaft

A pair of bearings 8, 9 located in opposite ends of the tube 3 are rotatably mounted on the shaft portion 7 and are held against axial movement relative to the shaft portion 7 by the provision of stops 10, 11 on the shaft portion 7. The stop 10 adjacent to the free end of the shaft por-10 tion is removable to permit the removal and replacement of the roller.

A pair of diametrically opposed radial lugs 12 are provided in the shaft portion 7 at a position spaced outwardly from the 15 stop 11 at the inner end of the shaft portion 7. The lugs 12 form an axial guide for a locking member 13 which is slidably mounted on the shaft portion and which is urged inwardly towards the roller by 20 means of a compression spring 14, which acts between the locking member 13 and an abutment 15 secured to the shaft por-

The locking member 13 comprises an 25 annular boss or plate 16 of synthetic plastics construction formed with a peripheral edge 17 of which the internal surface is of concave outline to facilitate the engagement thereto of the fingers of the 30 user to urge the locking member away from the roller. The locking member 13 may be formed with a single axial projection for engagement in an opening in the adjacent bearing 9. Preferably however the 35 locking member 13 is formed with a pair of diametrically opposed axial projections 18 for engagement in any one pair of diametrically opposed complementary openings 19 located in the adjacent bearing 9. 40 The locking member 13 includes a central opening of a diameter slightly greater than that of the shaft portion and a pair of diametrically opposed axially extending radial notches 20 having a sliding engagement 45 with the lugs.

The roller is normally used in a known manner to deposit a coat of paint upon a surface. In that condition the locking member 13 is held in a retracted position out 50 of engagement with the bearing 9 by the engagement of the outer end of the lugs 12 with the adjacent inner end of the boss 16.

After the coat of paint has been applied

to the surface the locking member 13 is 55 rotated relative to the shaft portion 7 to bring the notches 20 into registry with the lugs 12. Thus the locking member 13 is advanced by the spring 14 and the projections 18 engage in one pair of com-60 plementary openings 19 in the bearing 9. Since the locking member 13 is keyed to the shaft portion by the engagement of the lugs 12 in the notches 20, the engagement of the projections 18 in the openings 19 65 serves to key the roller to the shaft portion

7. The roller can then be drawn over the coat of paint in the manner of a brush or a painting pad by the contact with the coat of a small circumferential portion of the outer surface of the roller. This serves to 70 remove any irregularities from the coat and remove any orange peel effect therefrom.

Retracting the locking member 13 axially and rotating it relative to the shaft portion 7 to move the notches 20 from engagement 75 with the lugs 12 frees the roller and enables it to be rotated freely relative to the shaft portion 7. Thus the roller can be used again as in a conventional manner.

In a modified construction the locking 80 member comprises an arm or other strip detachably or pivotally connected to the handle. The arm or strip is adapted to be clamped against the outer surface or other part of the roller to lock the roller and the 85 handle against relative rotation.

WHAT WE CLAIM IS:-

1. A method of applying paint to a surface comprising manipulating the handle of a paint applying roller of the kind set 90 forth to cause the roller to travel rotatably over the surface and deposit a coat of paint thereon, operating manually operable means to lock the roller against rotation relative to the shaft of the handle as- 95 sembly, and manipulating the handle to cause the locked roller to move over the surface in the manner of a brush or pad and remove irregularities from a coat of paint previously deposited on the surface.

2. A paint applying roller of the kind set forth provided with manually operable means for locking the roller against rotation with respect to the shaft.

3. A paint applying roller as claimed in 105 Claim 2, in which the manually operable locking means comprises an arm or other strip detachably or pivotably connected to the handle assembly for clamping engagement with the outer surface or other 110 part of the roller.

4. A paint applying roller as claimed in Claim 2, in which the manually operable locking means comprises a spring loaded collar slidably keyed to the shaft at a posi- 115 tion spaced from one end of the roller and engageable with that end of the roller.

5. A paint applying roller as claimed in Claim 4, in which the roller includes a tube fixedly mounted at opposite ends on 120 a pair of bearings rotatable relative to the shaft, and the collar carries at least one projection for engagement in a complementary opening in one of the bearings.

6. A paint applying roller as claimed in 125 Claim 5, in which the collar is provided with a pair of diametrically opposed axially extending projections for engagement in any one pair of diametrically opposed complementary openings located 130

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in an adjacent face of the said one bearing. 7. A paint applying roller as claimed in any one of Claims 4-6, in which the collar is slidably keyed to a portion of the shaft 5 adjacent to and continuous with a deformed portion carrying a hand grip at its free end.

8. A method of applying paint to a surface substantially as herein described.

9. A paint applying roller of the kind

set forth substantially as described with reference to or as illustrated in the accompanying drawings.

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